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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 17

Application Number: 09/061,017

Filing Date: 4/15/98

Appellant(s): Baker

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Howard A. Skaist  
For Appellant

**EXAMINER'S ANSWER**

This is in response to Appellant's brief on appeal  
filed 2/2/00 and reinstated 5/8/2001.

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**(1) Real Party in Interest**

A statement identifying the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The Appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The Appellant's statement of the issues in the brief is correct.

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**(7) Grouping of Claims**

The Appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because, e.g. if the Appellant's main argument that the main reference (Afify) is not analogous is either agreed with or not, the claims should stand and fall together. Furthermore, defining what the "groupings of bits" represent, as specified in claim 4, does not change the Examiner's position that the claims should stand and fall together.

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

Sackett et al., "ATM Multiprotocol Networking", (1996)  
pp. 163-168, 193-203, 267-281

5,291,485	Afify et al.	3-1994
5,825,772	Dobbins et al.	10-1998

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

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Claims 1-3, 6-9 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Afify (US 5,291,485). This rejection is set forth in prior Office action, Paper No. 5.

As shown in e.g., Figs. 9-10, Afify discloses a method and apparatus for interleaving a data stream (alternating reads and multiplexing data from two different memories, combining two sources, Fig. 9; col. 8, lines 21-58, especially lines 48-58; and also alternating multiplexing header/address information between a data stream, col. 7, lines 54-56; combining or multiplexing in five possible ways, col. 9, lines 5-20; Interleaving, col. 9, lines 36-60; col. 11, lines 41-45; col. 12, lines 1-16), a plurality of multiplexers (i.e. 106/126/132, Fig. 9; 194/186, Fig. 10a), a state machine (microprocessor, 114), a bus (serial bus, SBI, 10 or 16, Fig. 9, 114, 112, 122, Fig. 9, parallel bus, high speed and low speed buses, col. 1, lines 12-19; col. 3, lines 6-33), a memory/buffer (i.e., 100, 102, or 110, Figs. 9/10a), writing a sequence of groupings of bits into a memory (8 bit, 12 bit or 16 bit groupings, 100, 102, 110, Fig. 9), reading and writing from memory (e.g., col. 10, lines 50-65), applying selected groupings (memory 110 uses 8 bit groupings X8; memory 100 and 102 use 16 bit groupings, Fig. 9) to a first MUX (110/126, Fig. 9; reformatter MUX 104, Fig. 9; col. 8, lines 55-58), applying the groupings applied (and passed through) to a second MUX (132, Fig. 9),

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applying at least one grouping (any grouping from anywhere) to the second MUX between applying groupings from the first MUX to the second MUX (alternating read operation, col. 8, lines 21-58, especially lines 48-58; col. 11, lines 40-46), at least one grouping comprises bits from another data stream (reading from alternating memories 100 and 102, or from MUX 104 as opposed to reading from MUX 126, Fig. 9; col. 10, lines 58-65), and providing data from a bus (Fig. 9 inputs, col. 10, lines 50-55). However, Afify failed to particularly call for the terminology groupings, as specified in claims 1, 12, and 18; and the memory to be a FIFO buffer, as specified in claims 2, 14, 16.

Regarding claim 1 and the terminology groupings, this reads on bytes, octets, digital words, frames, headers, addresses, etc. Groupings comprising bytes, as specified in claim 3, reads on digital words, frames, headers, addresses, etc. Furthermore, a SONET frame comprises 90 columns/octets/bytes times 9 rows times 8 bits per octet times 8000 bits 125 microseconds slots per second which equals the 51.8 Mbps STS-1 envelope (OC-1 when it is transferred to optical form). It would have been obvious for Afify to use groupings or to specify that, e.g., combinations of 12 bits (col. 8, lines 55-58) are groupings because the term groupings is a more broad term and allows more flexibility. Well known terms of

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art such as, e.g., packets, bytes, octets, digital words, or frames tend to change with each new technology.

Regarding the term buffer/FIFO, the Examiner took official notice that FIFO buffers (Afify: col. 8, lines 10-20) are notoriously well known and that it is extremely common to use them in this environment (switching, routing, multiplexing, data transmission). Congestion and traffic are commonly gauged by buffer's capacity and the associated queuing that takes place. One reason that buffers are used is to regulate data traffic or the queue traffic. It would have been obvious to use FIFO buffers since Afify does disclose memory buffering (col. 8, lines 10-17) and because the data read from memories 100 and 102 (Afify Fig. 9) is read continuously (col. 8, lines 51-55; col. 10, lines 59-65) similar to when reading data from FIFOs.

Regarding using the term byte, the Examiner took official notice that byte is a term of art and refers to 8 bits. In coding, e.g., voice, 8 bits multiplied by 8000 samples per second (Nyquist sampling theorem) equals 64 kbps which can also be called a DS-0 line. Furthermore, when talking about, i.e., SONET, or ATM (asynchronous transfer mode, and ATM runs on optical fibers/SONET/SDH), the term octet is used. An octet is also 8 bits.

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Regarding claim 5 and the term bursts, the Examiner took official notice that when establishing an ATM connection (which runs on fiber optic/SDH lines) using a call admission control (CAC) algorithm the traffic contract is established using what is known as quality of service (QoS). Depending on the type of traffic a user may negotiate the minimum burst rate (MBR) or sustainable burst rate (SCR). In other words, the term burst is notoriously well known and is used when dealing with variable bit rate (VBR) traffic.

Regarding claim 12, the preamble is not given any patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, 88 USPQ 478 (CCPA 1951). An intended use clause found in the preamble is not afforded the effect of a distinguishing limitation unless the body of the claim sets forth structure which refers back to, is defined by, or otherwise draws life and breath from the preamble. In re Casey, 152 USPQ 235 (CCPA 1967).



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***Claim Rejections - 35 USC § 103***

Claims 4-5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Afify as applied to claim 1 above, and further in view of Dobbins.

However, Afify fails to particularly call for the VLAN tags.

As shown in Figs. 3-4, Dobbins teaches VLAN tags.

Therefore it would have been obvious to one of ordinary skill in the art, having both Afify and Dobbins before him/her and with the teachings [a] as shown in Afify, that add-drop MUXes, interfacing with various networks (col. 1, lines 12-19; col. 3, lines 6-33) and interleaving address/tags/OH with data streams are well known and [b] as shown in Dobbins, that VLAN tags/addresses/IDs are also well known, to modify the Networking system of Afify to further include VLANS and the associated tags/IDs because VLANS are more secure networks than regular Ethernet LANs are.

***(11) Response to Argument filed 2/2/2000***

In re pages 6-13, the Appellant argues that Afify is non-analogous art, has nothing to do with interleaving data streams, cannot be considered to be within the field of Appellant's endeavor, and is not reasonably pertinent to the subject matter.

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In response, clearly the Appellant's invention is related to multiplexing and class 370 is titled "Multiplex Communications". This means that the Appellant's claimed invention or patent application should be searched in class 370 and especially in subclasses that deal directly with multiplexing. The applied art of record (Afify) is currently classified in class 370 subclass 537 which is titled *Multiplexing Plural Input Channels To A Common Output Channel*. Therefore, it is clear that Afify is clearly analogous art, especially since both Afify (Fig. 9) and the claimed invention (Fig. 1) are dealing with multiplexing plural streams of data.

Also, since one of ordinary skill in the art would consider multiplexing to be a form of interleaving, Afify clearly has a lot to do with interleaving data streams, is considered to be within the field of Appellant's endeavor, and is extremely pertinent to the subject matter.

One of ordinary skill in the art could merely look at the Appellant's figure one which calls for multiplexers (MUXes) and compare the figure one to the Appellant's claim one which calls for interleaving using the MUXes. It appears that for the Appellant's argument (that Afify has nothing to do with interleaving) to be

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valid, the Appellant's own figure one would also have to be said to have nothing to do with interleaving.

In re page 7, the Appellant argues Afify does not apply at least one grouping to a second MUX between applying groupings from the first MUX to the second MUX.

In response, the second MUX (132, Fig. 9) disclosed in Afify has more than two inputs (col. 11, lines 40-46) and is interleaving the TXDATA, the OHDATA/addresses, and STS data. Therefore, Afify does apply at least one grouping to a second MUX between applying groupings from the first MUX to the second MUX. Looking at the figures reveals that Afify has a first MUX (104, 118 or 126) feeding a second MUX (132) with the second MUX also receiving data from another source (both 104 and 126 read on "the first MUX" since they are both MUXes), just like the Appellant's figure one. Although, the Appellant did not claim the alternate data source coming out of MUX 3 (Fig. 1) clearly. Instead the Appellant used extremely broad language by specifying "at least one grouping" which means any other grouping from any where.

Regarding pages 8-9, there is no mention of these limitations in the claims and the specification is not the measure of the invention. Therefore, limitations contained therein can not be

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read into the claims for the purpose of avoiding the prior art; see In re Sprock, 55 CCPA 743, 386 F.d. 924, 155 USPQ 687 (1968).

Furthermore, the Appellant spent a fair amount of text arguing how the applied art (Afify) deals with virtual tributaries and optical networks.

In response, certainly the Appellant must realize that the data being interleaved in Afify is in the electrical form and not the optical form (light pulses) and that the data that the MUXes receive in both Afify and the Appellant's claimed invention deal with mere streams of digital ones and zeros. It does not matter whether the data being multiplexed came from e.g., a video, audio, or text source. It also does not matter where the source was located at the time of transmitting the data. Whether the data came from a PC connected to an Ethernet LAN, like one might find at the PTO, or whether the data came from some type of telephone line also does not matter. Just because Afify may convert the MUXed data into an optical form before transmitted it to another location does not mean that Afify's disclosure (Fig. 9) does not meet the claimed invention. Afify has still disclosed interleaving electrical streams of data received from at least one bus.

In re page 10, the Appellant argues hindsight reconstruction.

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In response, as is well known, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F.d. 1392, 170 USPQ 209 (CCPA 1971).

In re page 12, the Appellant argues motivation.

In response the Examiner has stated to modify the Networking system of Afify to further include VLANs and the associated tags/IDs because VLANs are more secure than regular Ethernet LANs. In other words, Ethernet is a "broadcast" environment and all data can easily be received by destination(s) which the data or frame(s) were not intended to go. By using VLANs the data destinations are controlled by, e.g., a switch which does not "flood" the data as a bridge may do. Afify discloses digital communications and telephony (col. 1). One of ordinary skill would realize that a large proportion of the telephony devices, such as computers (PCS) with sound cards and microphones are actually located in commercial buildings and it is notoriously well known that Ethernet LANs are

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the most popular form of digital communications inside those buildings. Since VLANs are more secure, one would consider implementing the VLAN tags which go in the Ethernet frames.

It is important to realize that both the Appellant's claimed invention and the Applied art are both concerned with multiplexing digital data streams at the physical layer (of the OSI model).

In re supplemental Appeal Brief filed 5/8/2001, the Appellant talks about the sequence of events that lead up to reopening prosecution in order to mail the Appellant a few pages out of a text book. One interpretation of these remarks is that the Appellant argues a demand for evidence or support for official notice does not have to be made clear or unambiguous.

In response, this is a moot point. The Appellant now has the pages from a text book which fully support the Examiner's taking of official notice.

***(12) Response to Arguments/Reply Brief filed 5/24/2000***

In re Reply Brief, the prosecution was reopened (on 2/12/01) and a new final rejection was made so that the Appellant could be sent supporting document(s) for the official notice taken 5/11/99.

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***(13) Response to Arguments/Supplemental Appeal Brief  
filed 5/08/2001***

In re page 3, lines 21-25, the Appellant argues the Examiner did not meet his burden regarding his official notice during prosecution.

In response, the prosecution was reopened (on 2/12/01) so that the appellant could be mailed a few pages from a text book (Sackett) which support the official notice. As stated in the rejection mailed 2/12/01, paper no. 15, the Examiner took official notice (paper no. 5) that when establishing an ATM connection (which runs on fiber optic/SDH lines) using a call admission control (CAC) algorithm the traffic contract is established using what is known as quality of service (QoS). Depending on the type of traffic a user may negotiate the minimum burst rate (MBR) or sustainable burst rate (SCR). In other words, the term burst is notoriously well known and is used when dealing with variable bit rate (VBR) traffic. See Sackett et al. (ATM & Multiprotocol Networking).

Sackett teaches when establishing an ATM connection (which runs on fiber optic/SDH lines, Sackett: pages 163-168) using a call admission control (CAC) algorithm (Sackett: e.g. pages 196-198, 202) the traffic contract (section 9.2.4, page 198) is

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established using what is known as quality of service (QoS, Sackett: section 9.2.3, pages 198-9). Depending on the type of traffic a user may negotiate the minimum burst rate (MBR, Sackett: pages 196, 200-3) or sustainable burst rate (SCR, page 196). In other words, the term burst is notoriously well known and is used when dealing with variable bit rate (VBR) traffic (page 200), and ATM with respect to ELANS/VLANs (Sackett: 267-281, especially page 269).

In re page 4, lines 2-3, the Appellant argues the Appellant acknowledged that the Examiner's characterization of the term was one possible construction of that term.

In response, the Examiner agrees.

In re page 4, lines 12-14, the Appellant argues the board should give no weight to the Examiner's taking of official notice regarding the term burst (even though the appellant argued that the Appellant acknowledged that the Examiner's characterization of the term [burst] was one possible construction of that term, see paper no. 16, page 4, lines 2-3) and that the board should be directed to allow all claims pending.

In response, not only was the term burst not included in any of the independent claims but it (the term burst) was also not



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further defined in the claims. Thus, it is extremely difficult for the Examiner to believe that the term burst is the appellants' point of novelty. Thus, the Examiner believes the rejection needs to be affirmed.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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**PATENT EXAMINER**

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June 5, 2001

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